



# NISTIR 6191

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## Demonstration Of Biodegradable, Environmentally Safe, Non-Toxic Fire Suppression Liquids

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David W. Stroup, Editors

July 1998



**U.S. Department of Commerce**  
William M. Daley, *Secretary*  
**Technology Administration**  
Gary R. Bachula, *Under Secretary for Technology*  
National Institute of Standards and Technology  
Raymond G. Kammer, *Director*



*Prepared for:*  
**Federal Emergency Management Agency**  
James Lee Witt, *Director*  
**U.S. Fire Administration**  
Carrye B. Brown, *Administrator*

**APPENDIX D**

**COMPUTER ACQUIRED DATA FROM  
MASS-RETENTION EXPERIMENTS 1-27**

William J. Josler  
National Institute of Standards and Technology  
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Fire Safety Engineering Division  
Large Fire Research  
Gaithersburg, Maryland

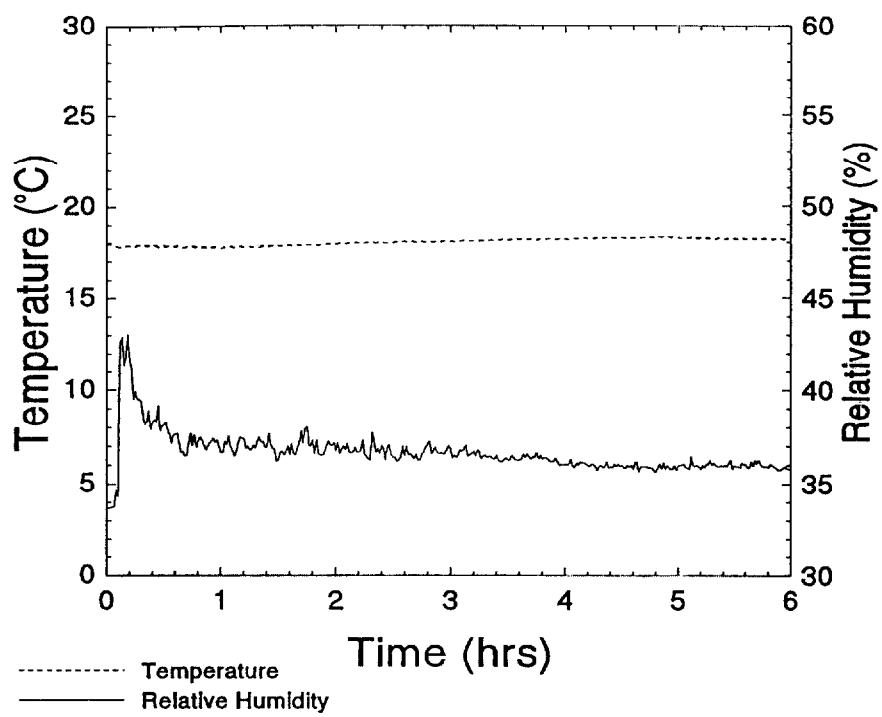


Figure 1 - Water, experiment 1, environmental conditions

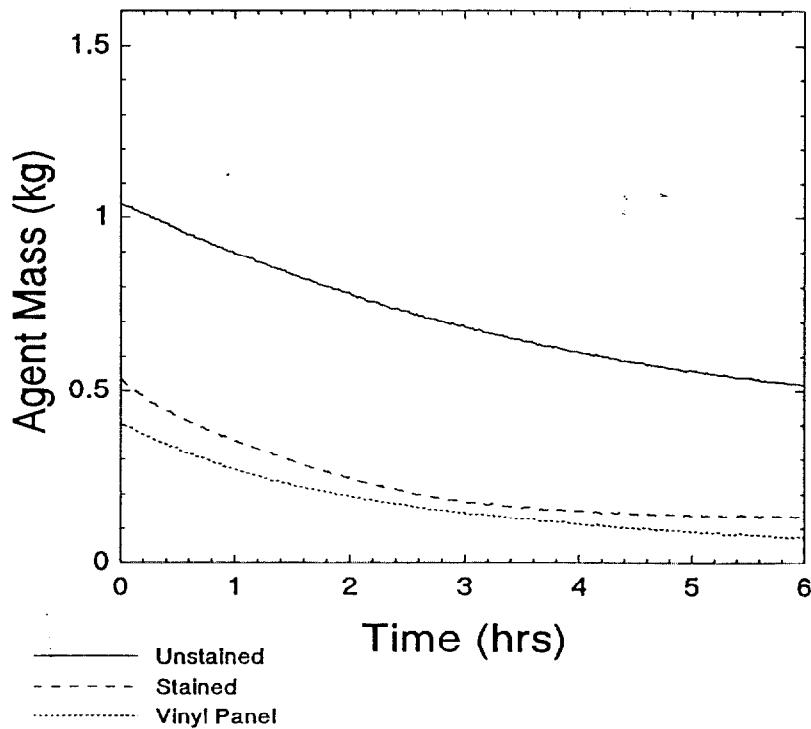


Figure 2 - Water, experiment 1, mass retention

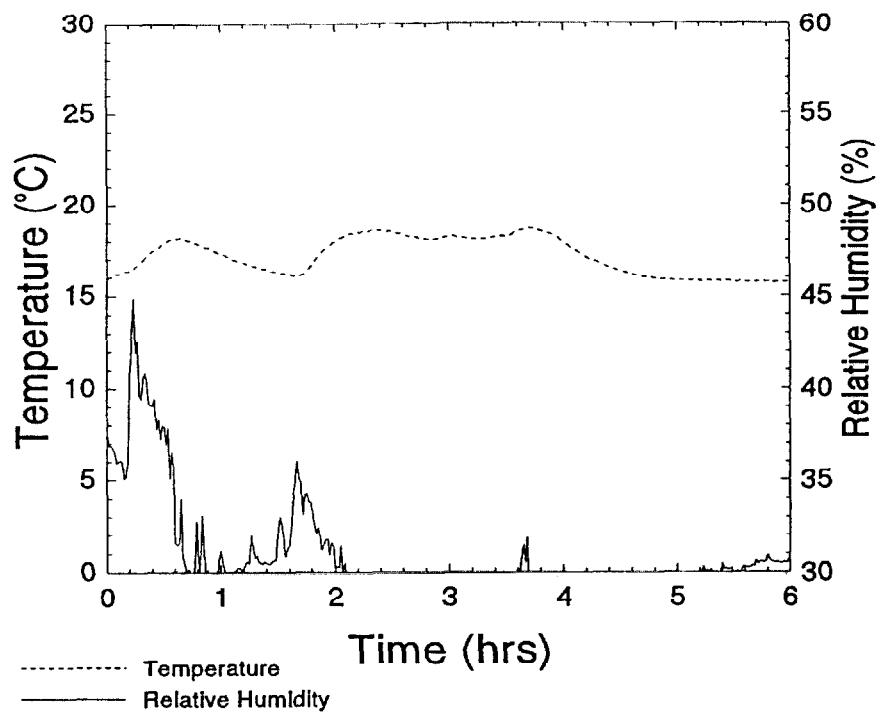


Figure 3 - Water, experiment 2, environmental conditions

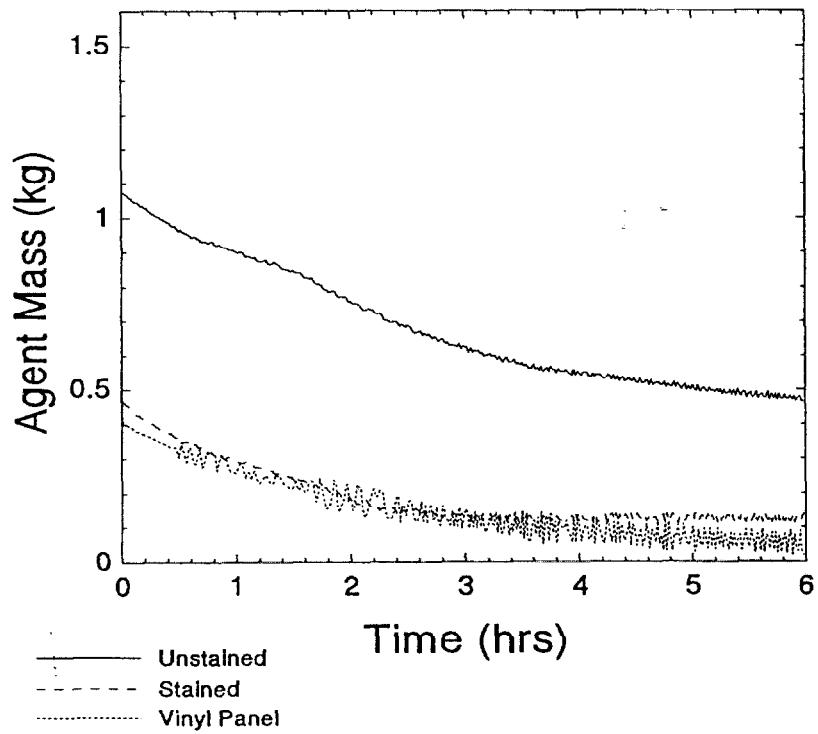


Figure 4 - Water, experiment 2, mass retention

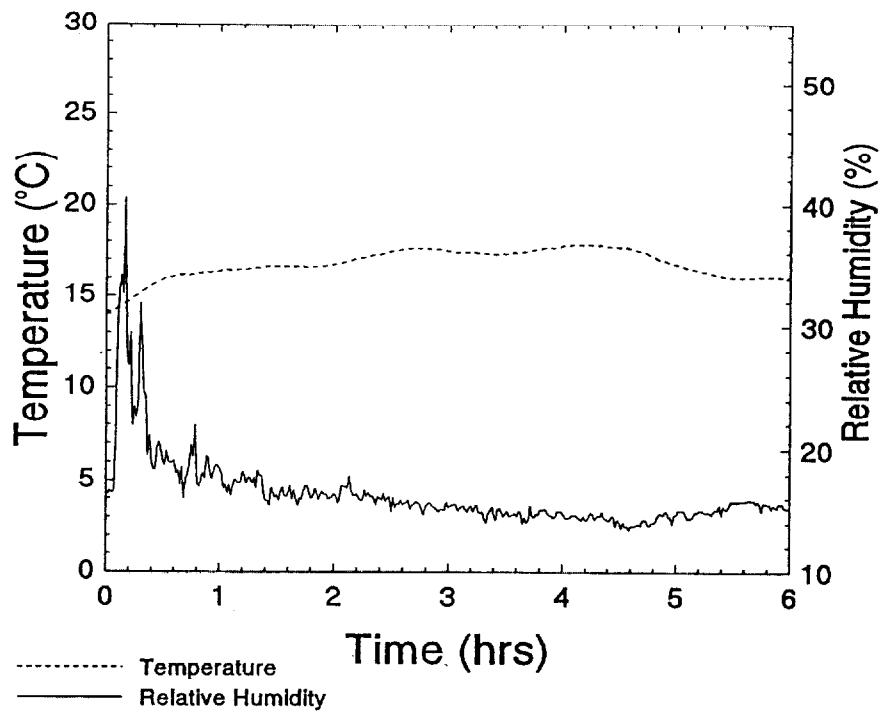


Figure 5 - Water, experiment 3, environmental conditions

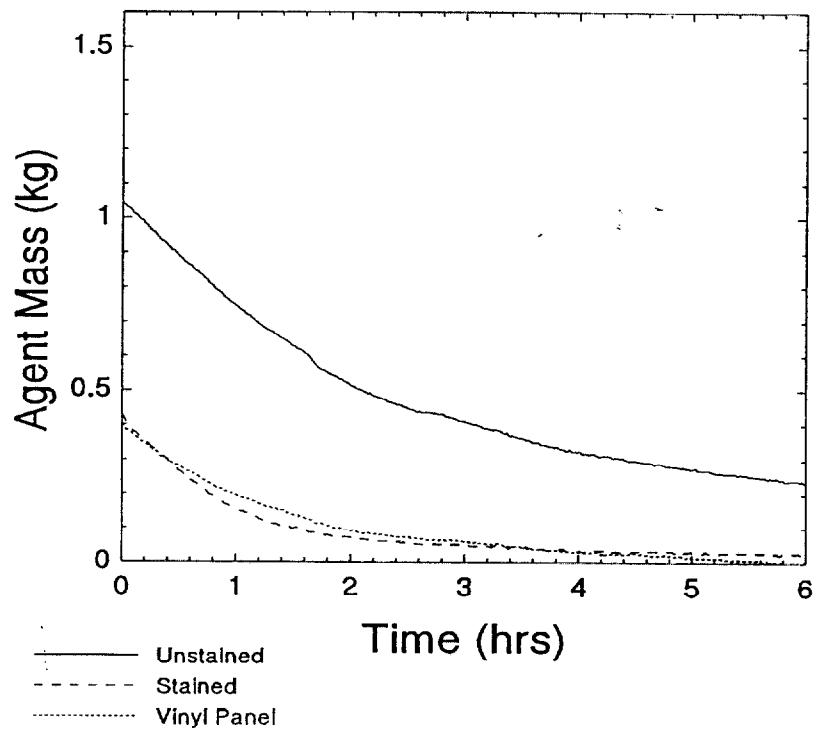


Figure 6 - Water, experiment 3, mass retention

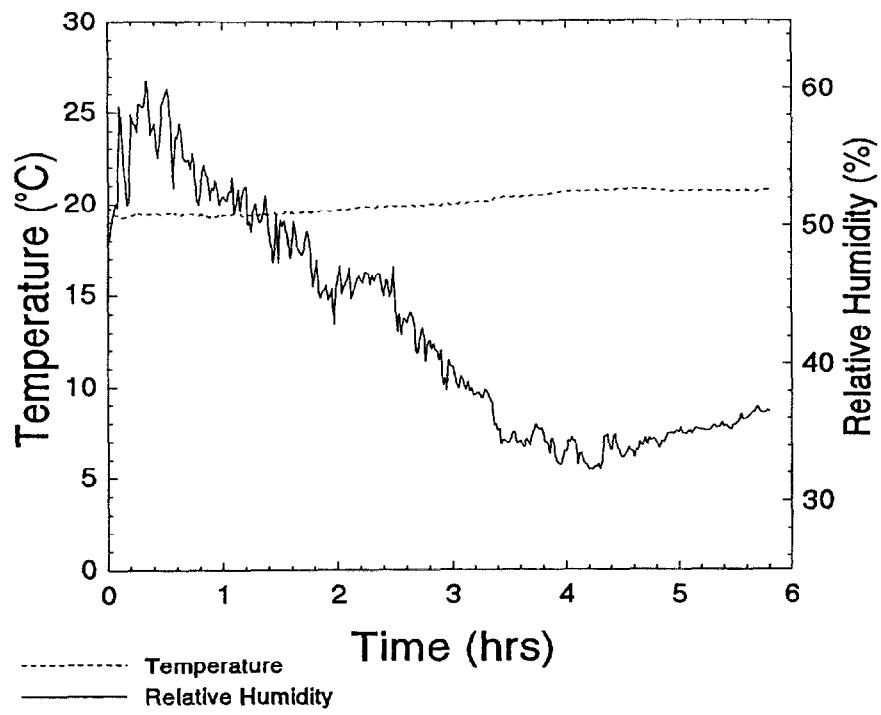


Figure 7 - Solution A, experiment 1, environmental conditions

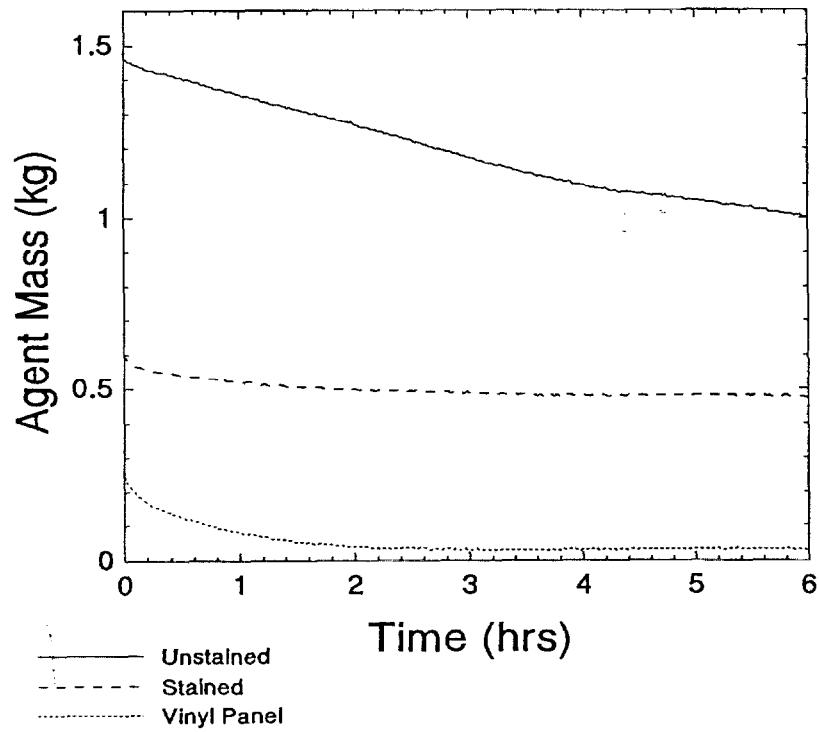


Figure 8 - Solution A, experiment 1, mass retention

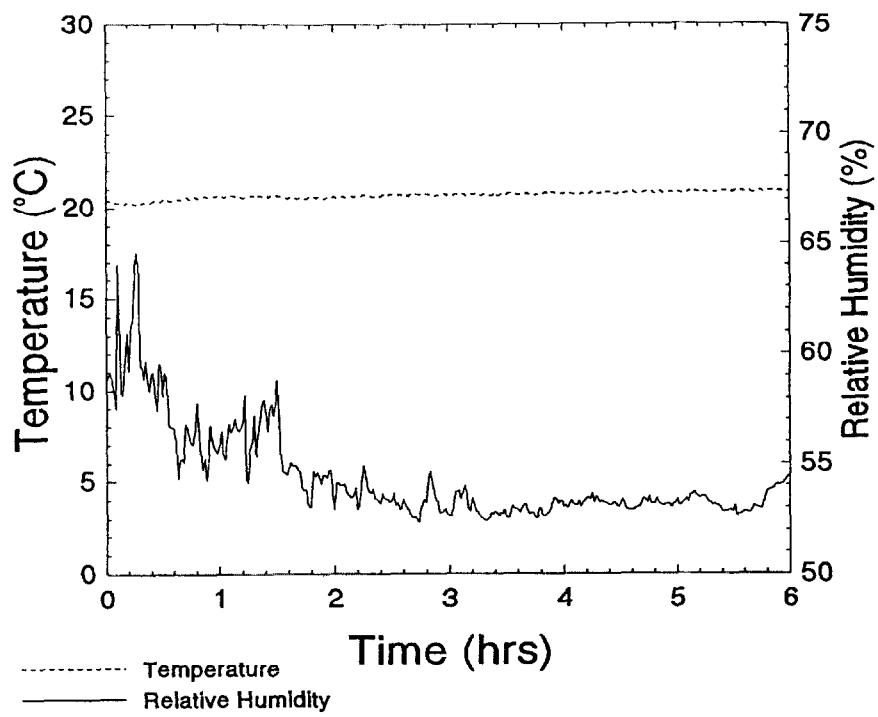


Figure 9 - Solution A, experiment 2, environmental conditions

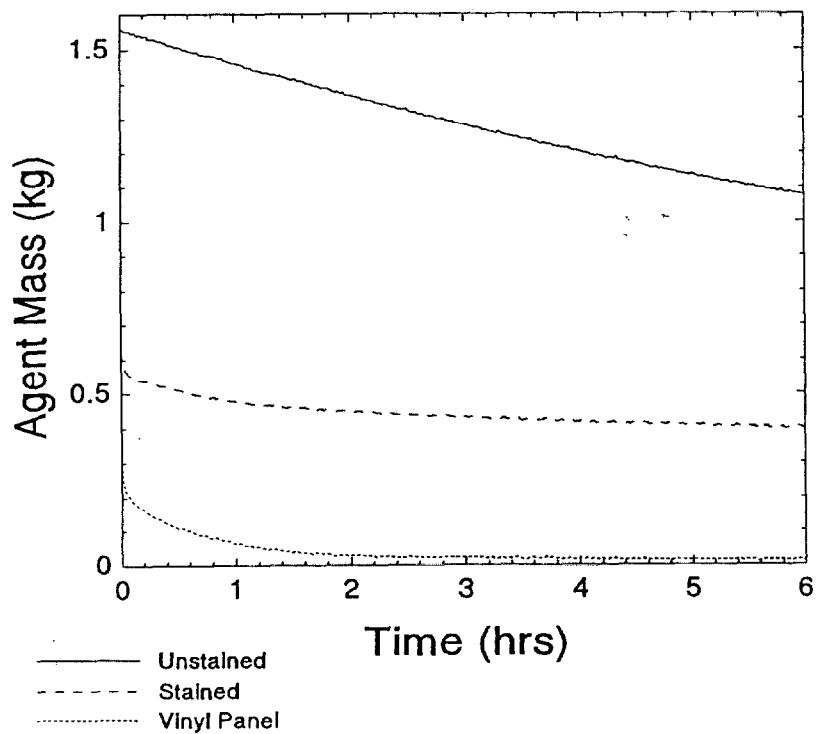
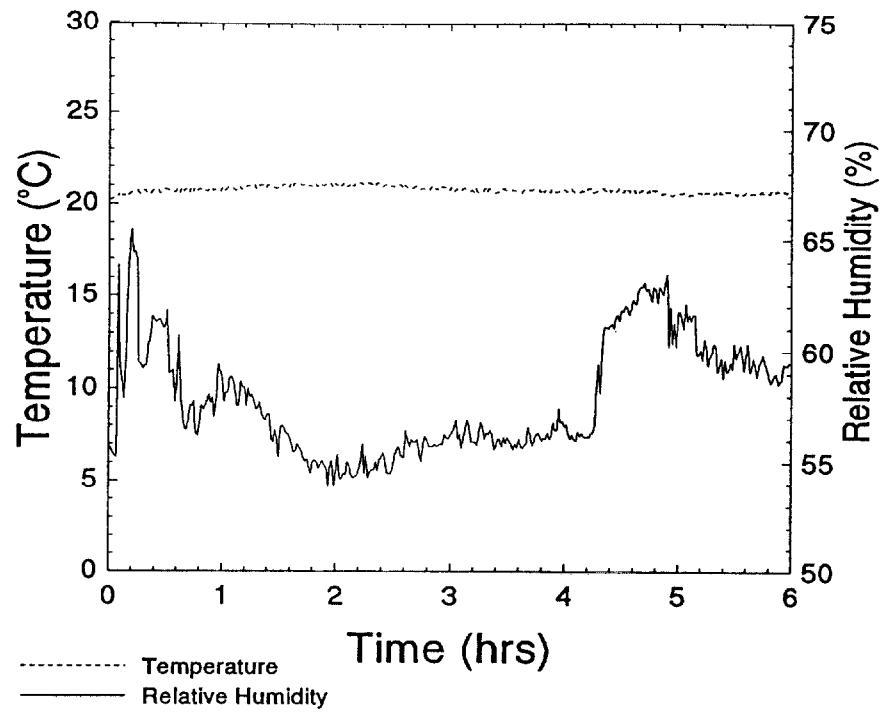
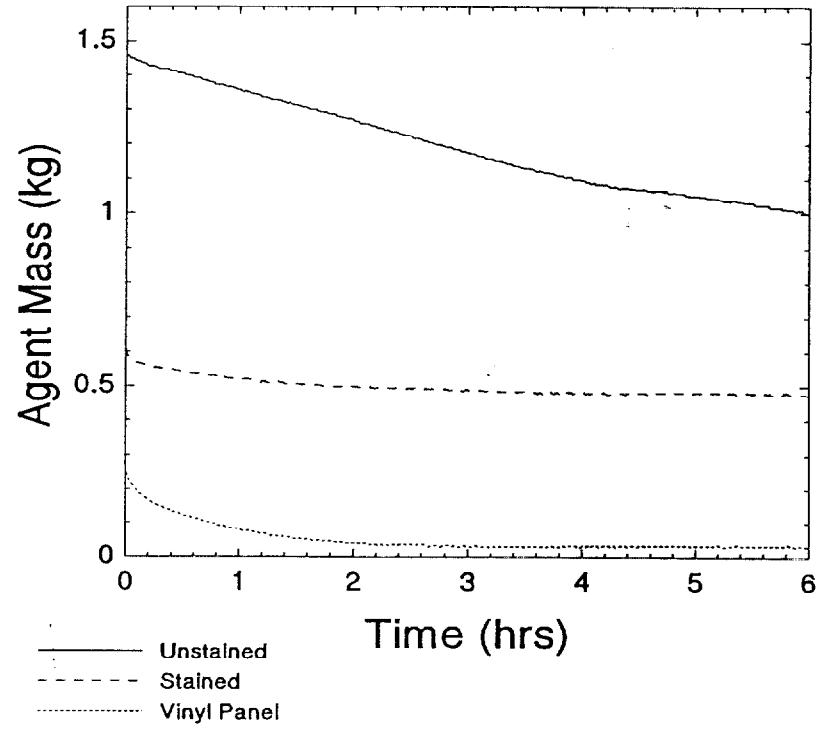


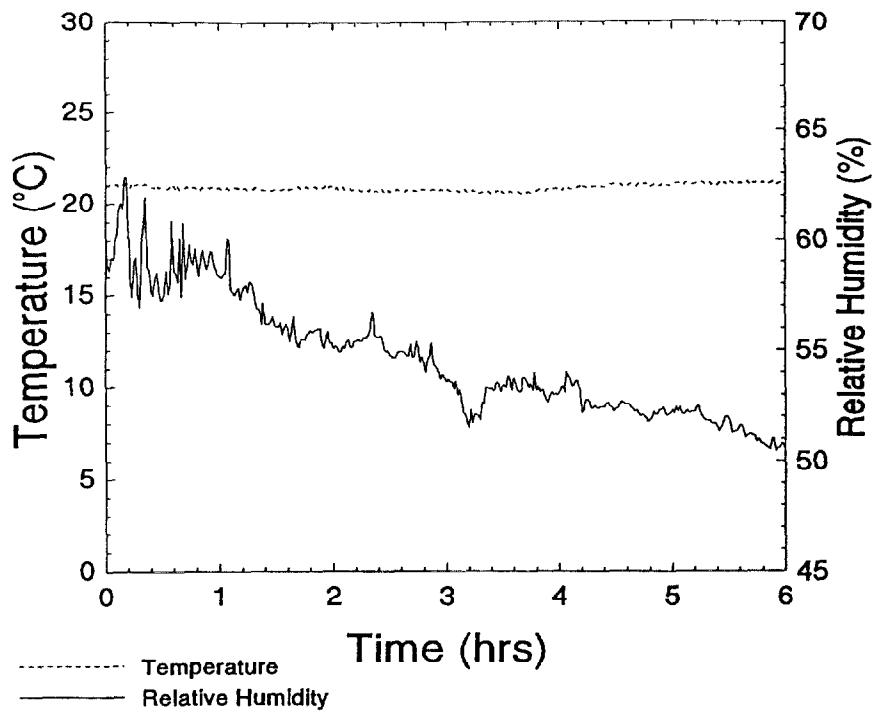
Figure 10 - Solution A, experiment 2, mass retention



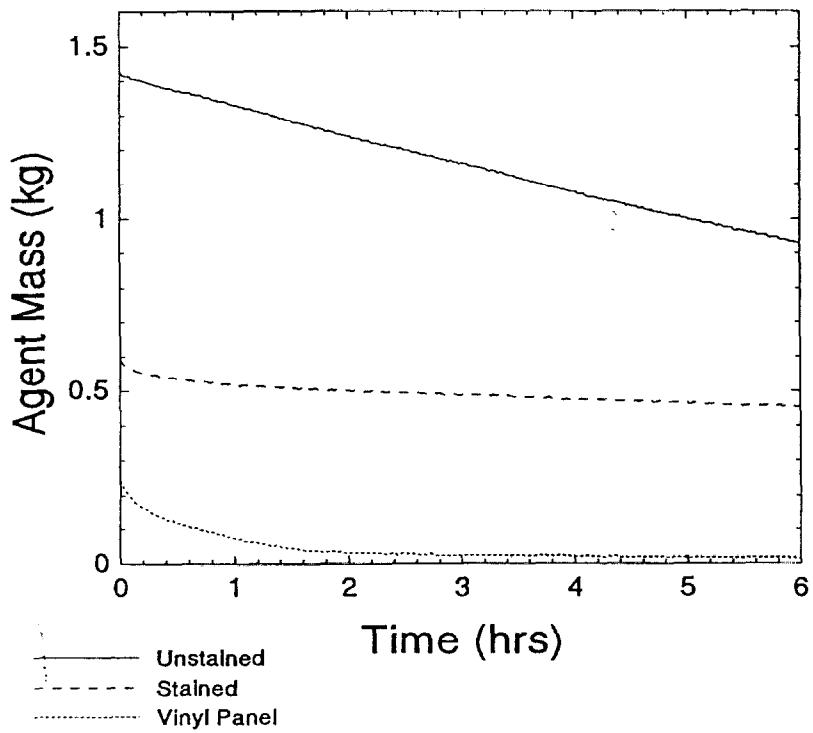
**Figure 11 - Solution A, experiment 3, environmental conditions**



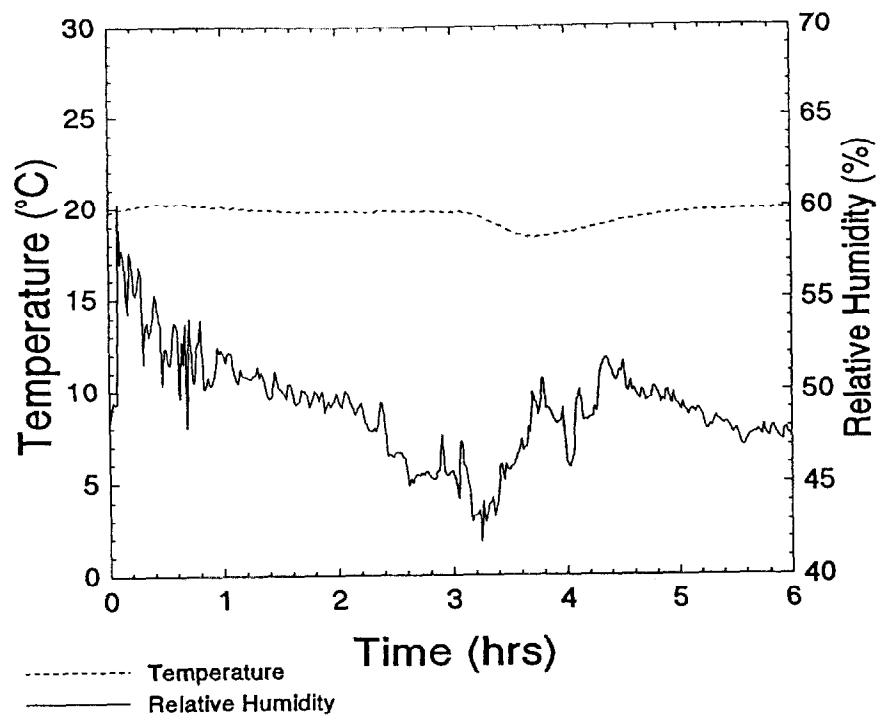
**Figure 12 - Solution A, experiment 3, mass retention**



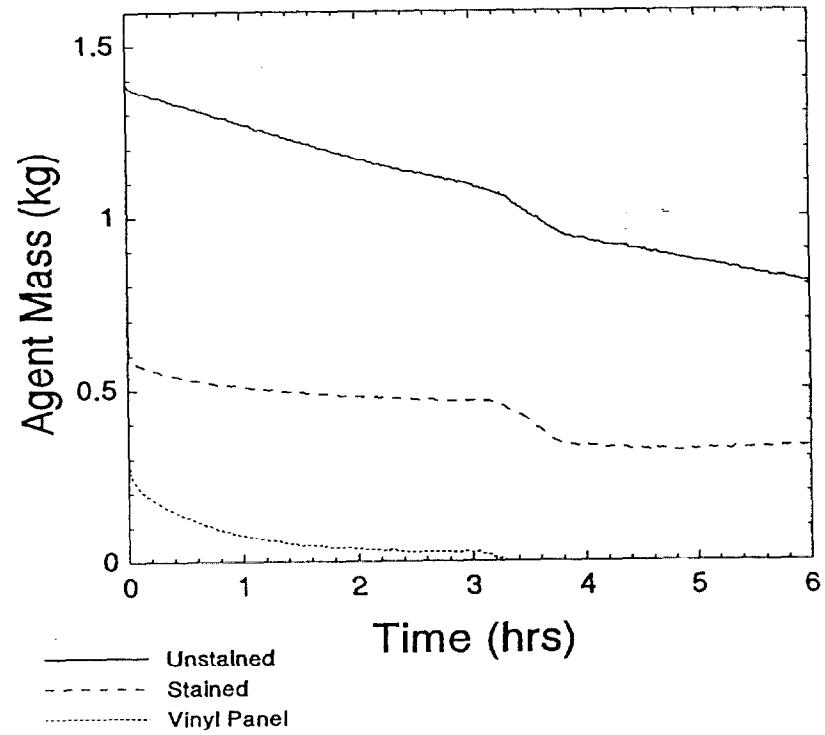
**Figure 13 - Solution B, experiment 1, environmental conditions**



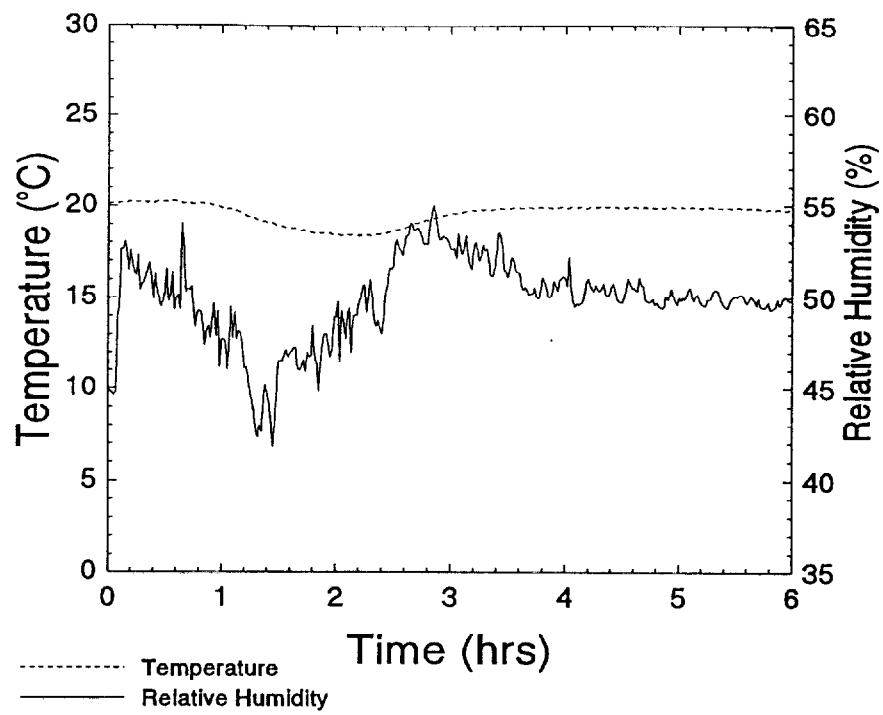
**Figure 14 - Solution B, experiment 1, mass retention**



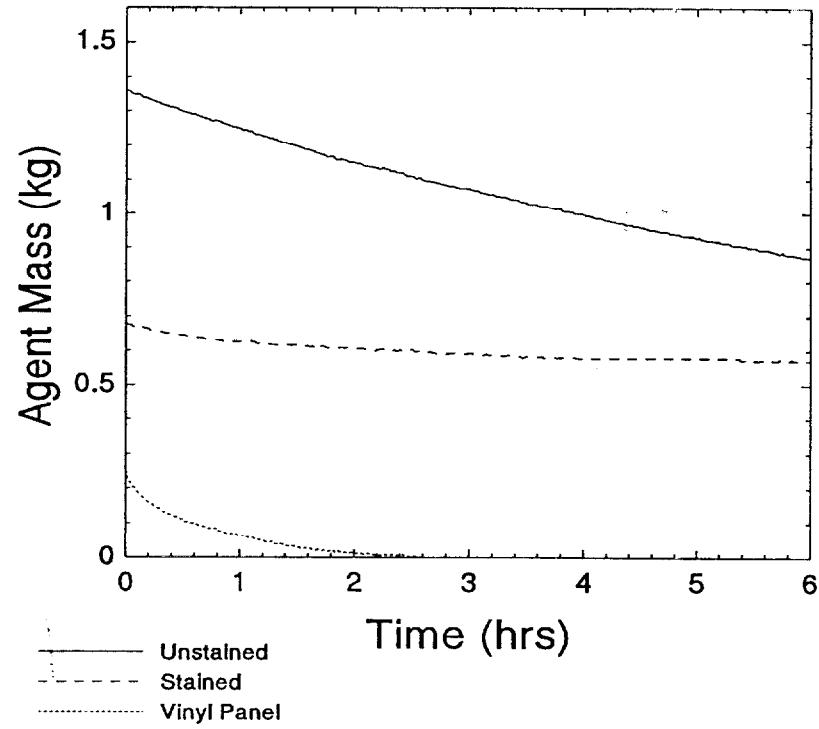
**Figure 15 - Solution B, experiment 2, environmental conditions**



**Figure 16 - Solution B, experiment 2, mass retention**



**Figure 17 - Solution B, experiment 3, environmental conditions**



**Figure 18 - Solution B, experiment 3, mass retention**

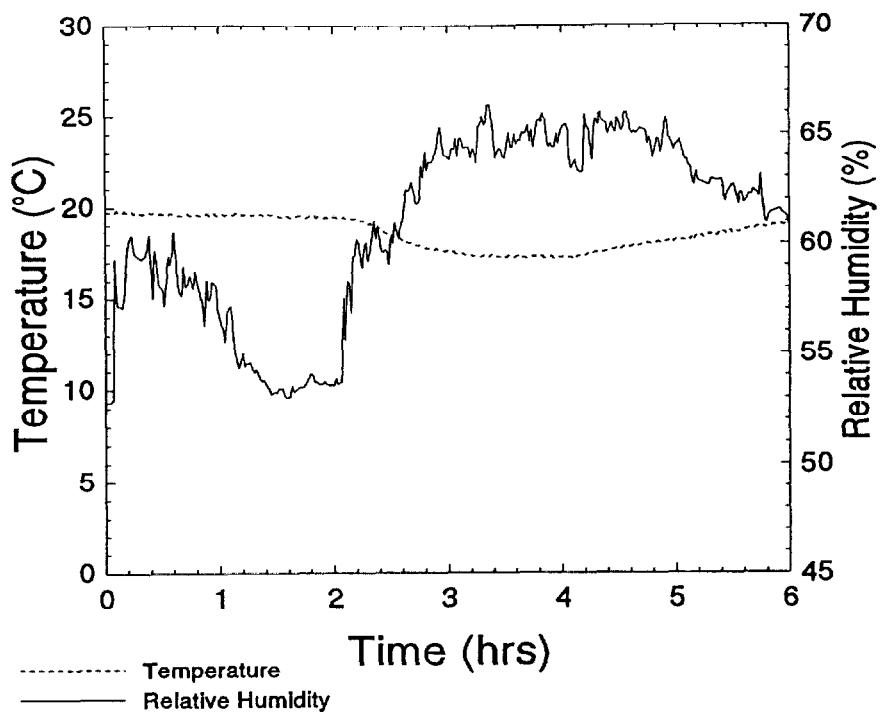


Figure 19 - Solution C, experiment 1, environmental conditions

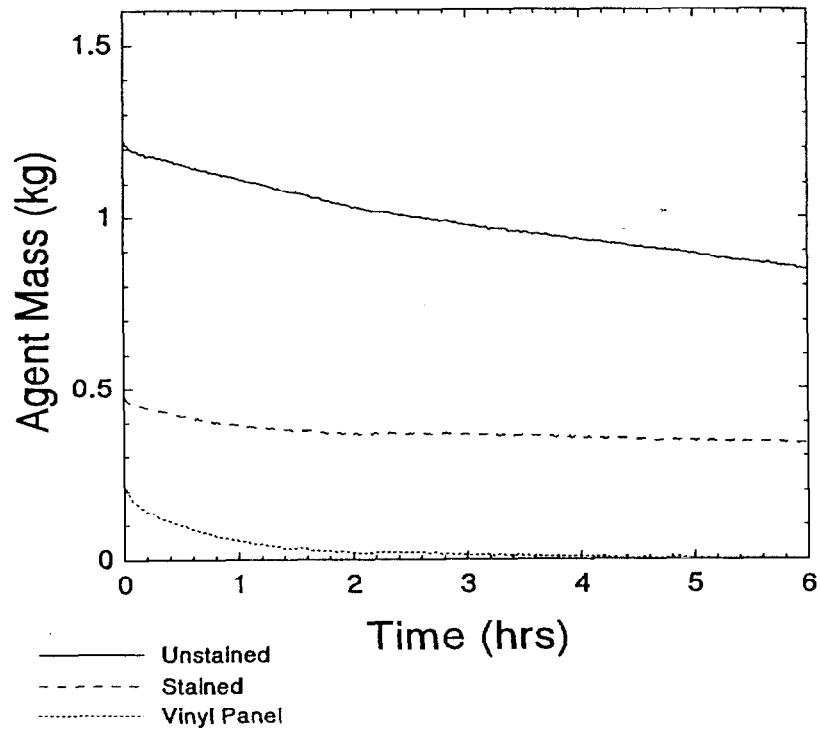


Figure 20 - Solution C, experiment 1, mass retention

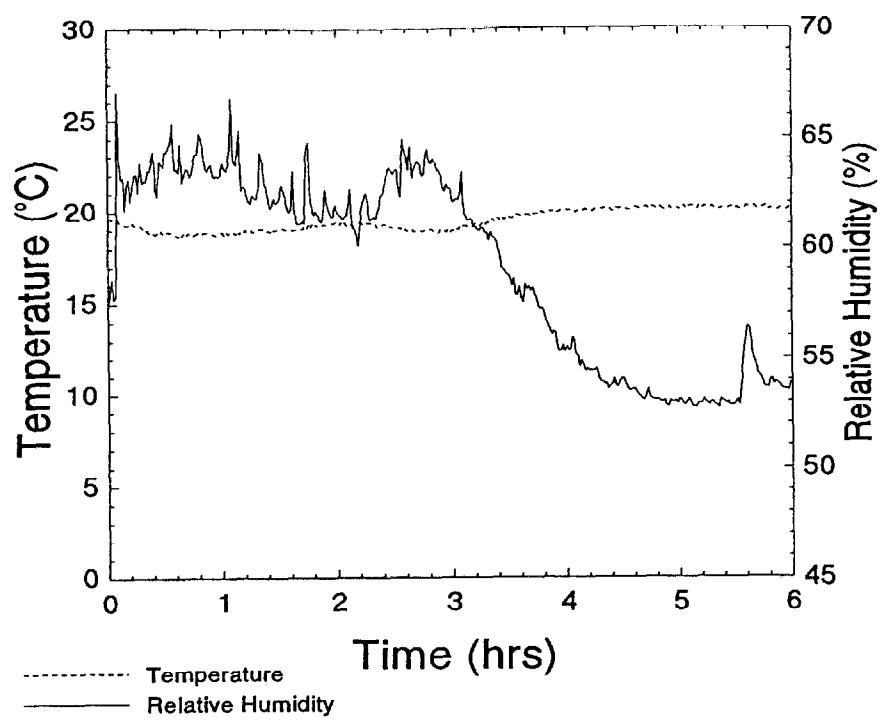


Figure 21 - Solution C, experiment 2, environmental conditions

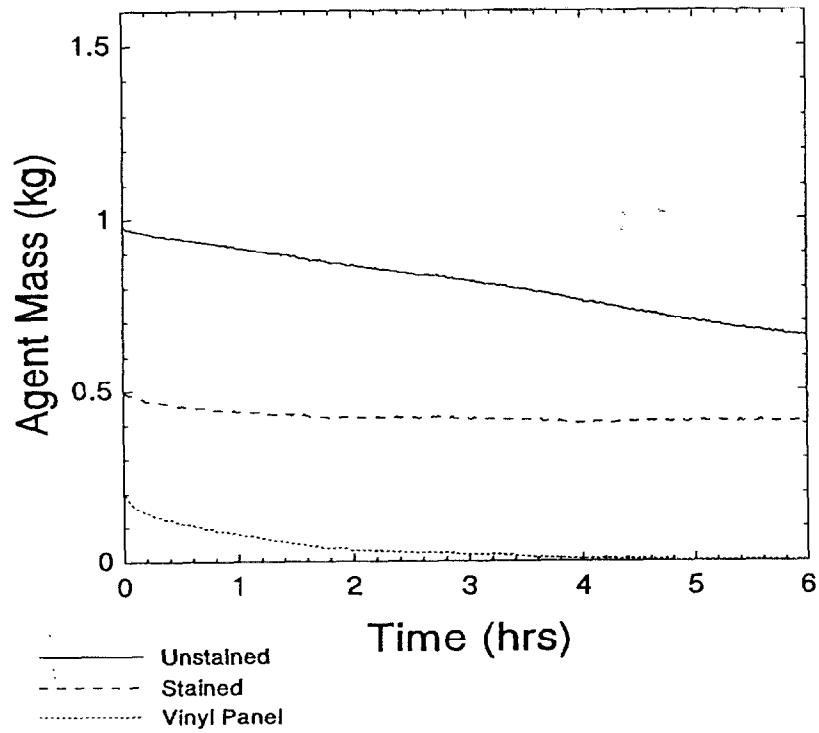
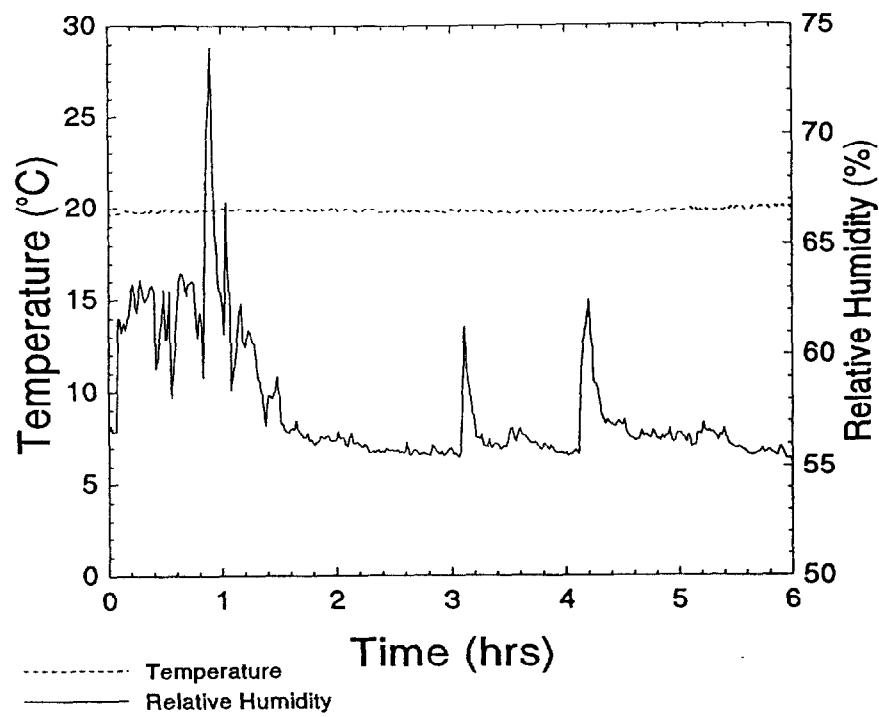
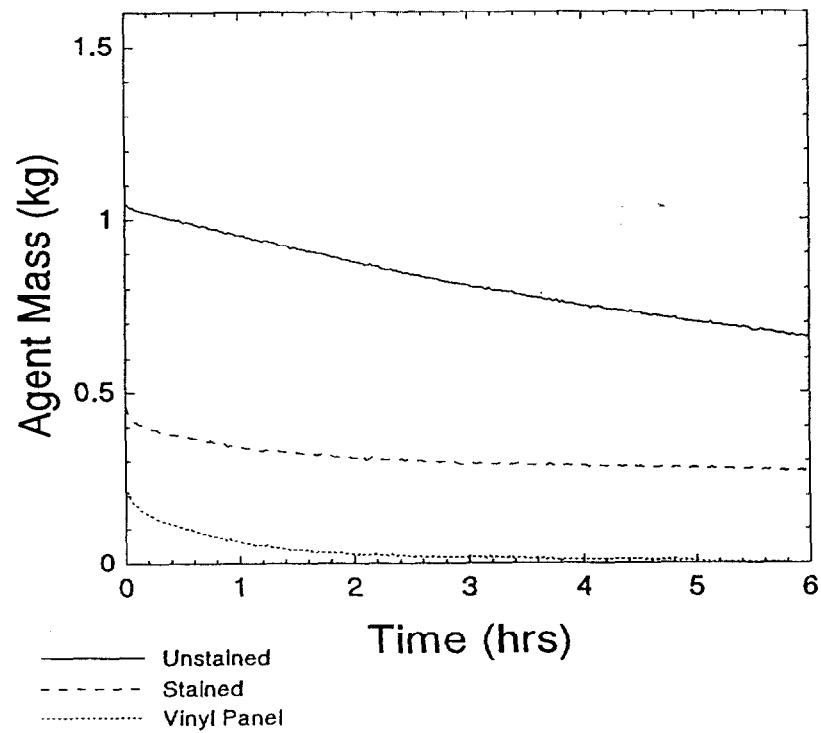


Figure 22 - Solution C, experiment 2, mass retention



**Figure 23 - Solution C, experiment 3, environmental conditions**



**Figure 24 - Solution C, experiment 2, mass retention**

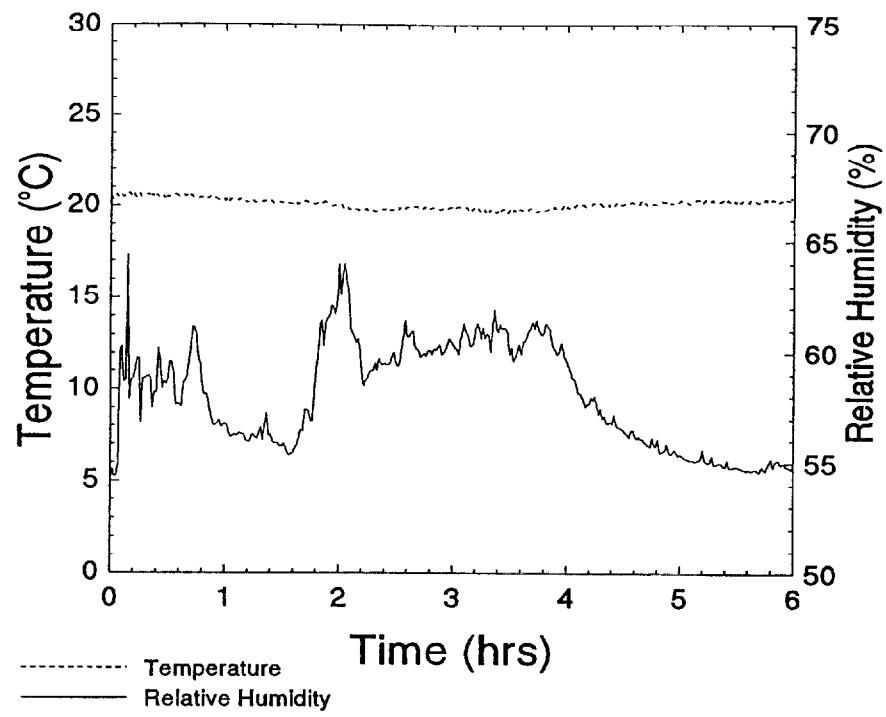


Figure 25 - Solution D, experiment 1, environmental conditions

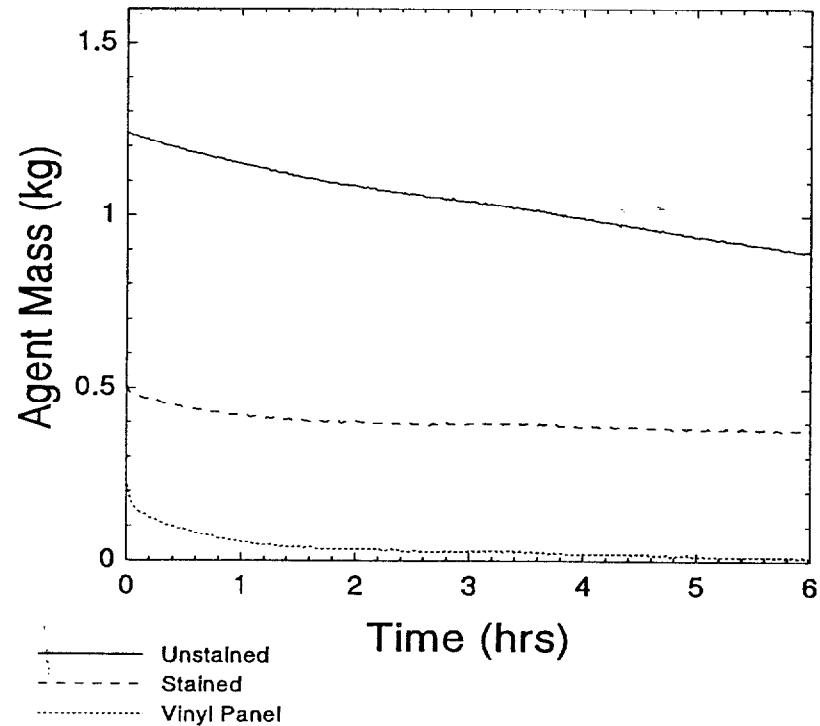


Figure 26 - Solution D, experiment 1, mass retention

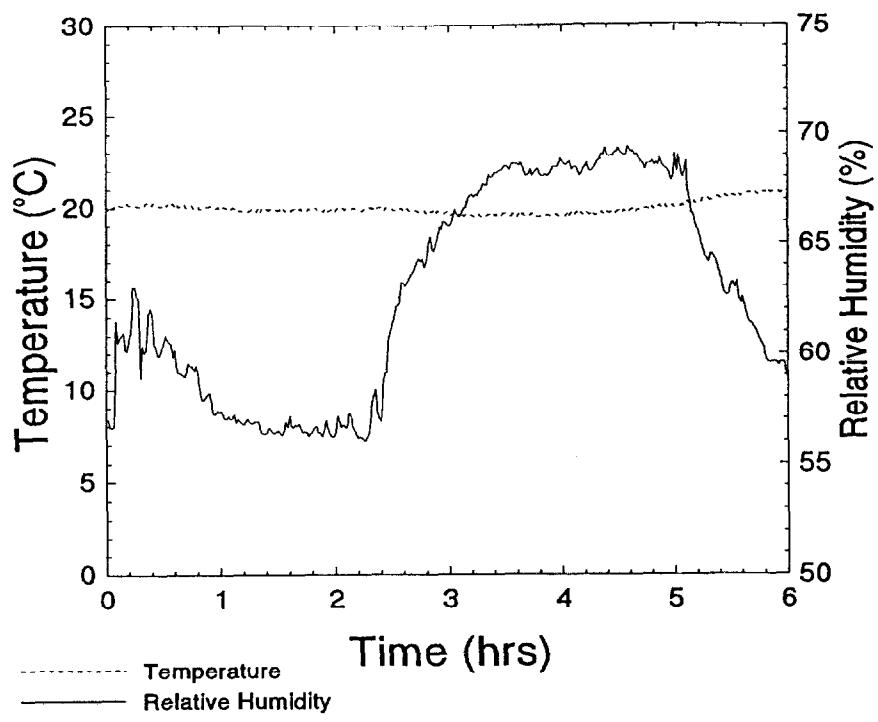


Figure 27 - Solution D, experiment 2, environmental conditions

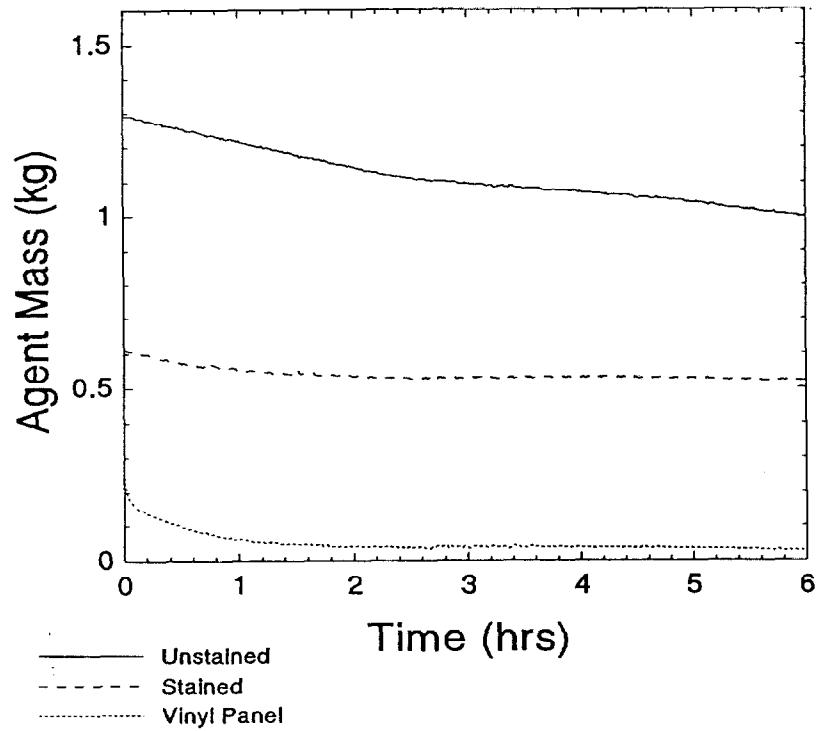
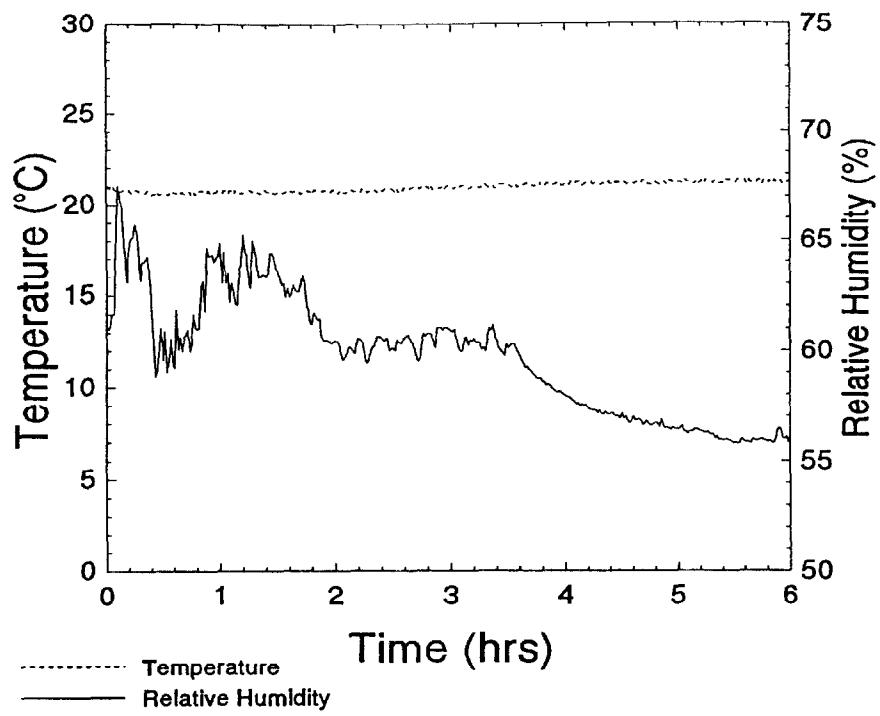
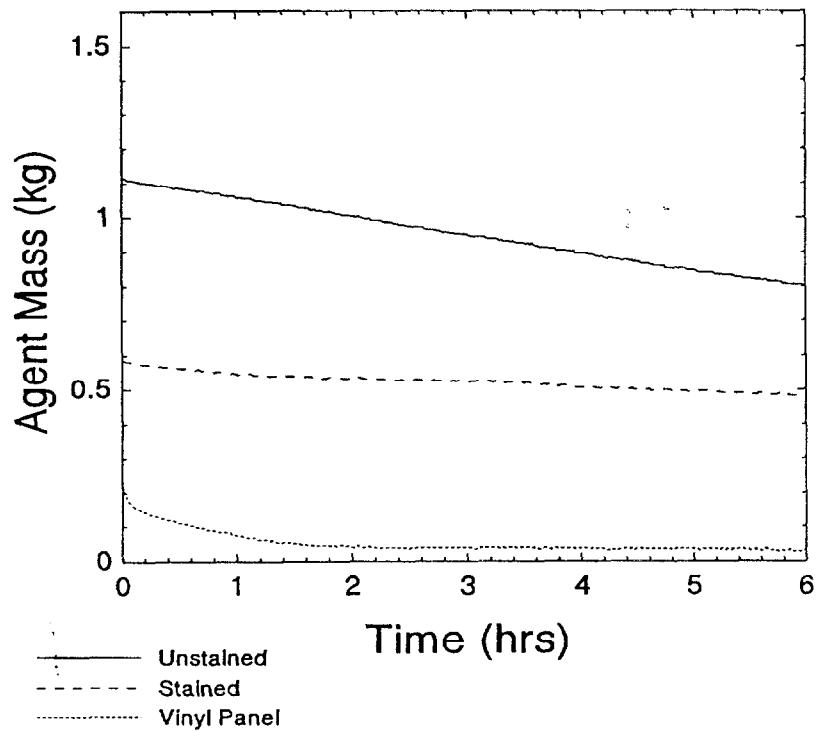


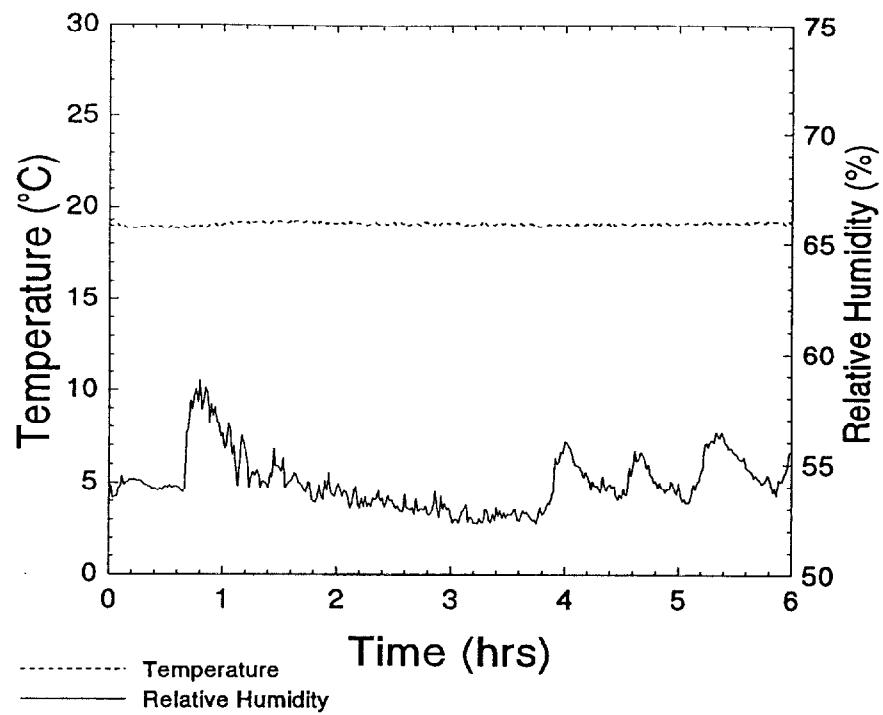
Figure 28 - Solution D, experiment 2, mass retention



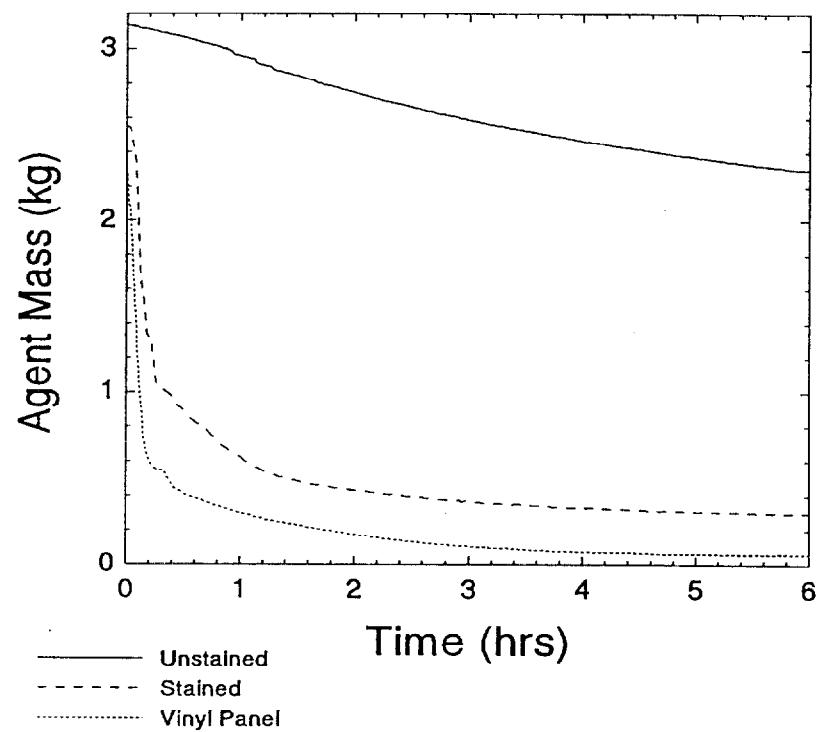
**Figure 29 - Solution D, experiment 3, environmental conditions**



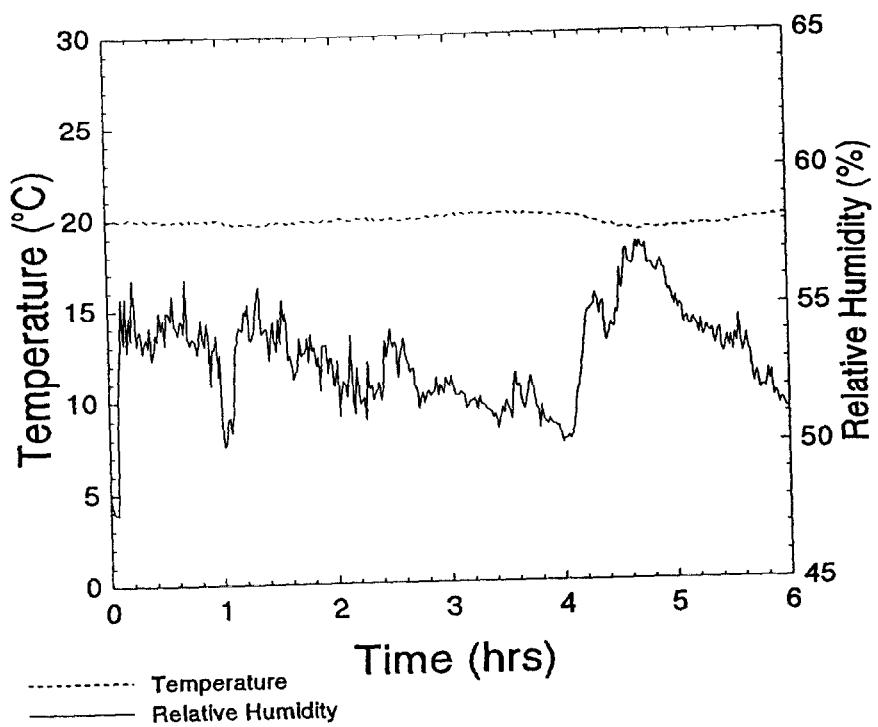
**Figure 30 - Solution D, experiment 3, mass retention**



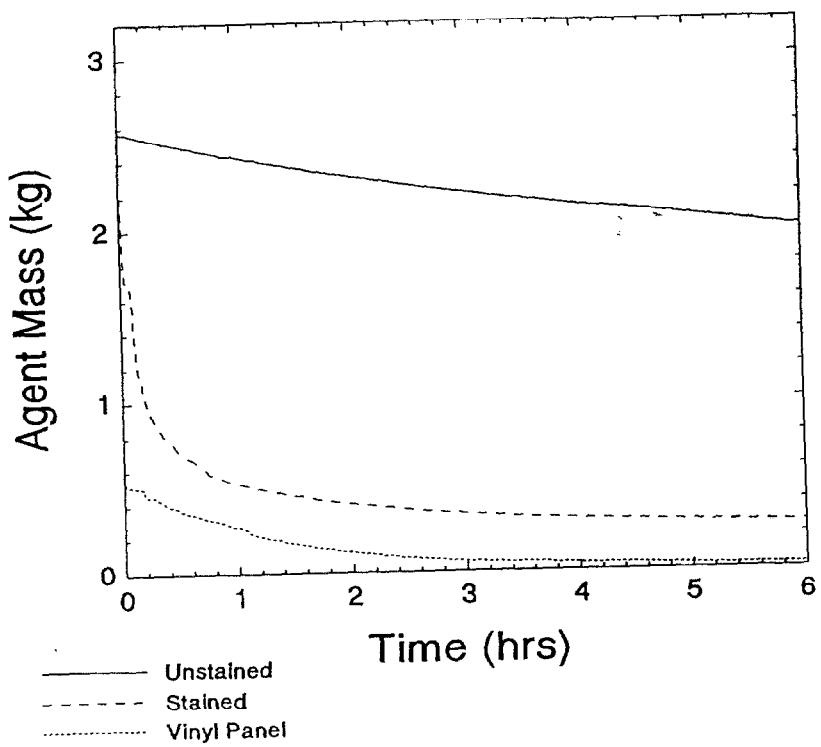
**Figure 31 - Foam A, experiment 1, environmental conditions**



**Figure 32 - Foam A, experiment 1, mass retention**



**Figure 33 - Foam A, experiment 2, environmental conditions**



**Figure 34 - Foam A, experiment 2, mass retention**

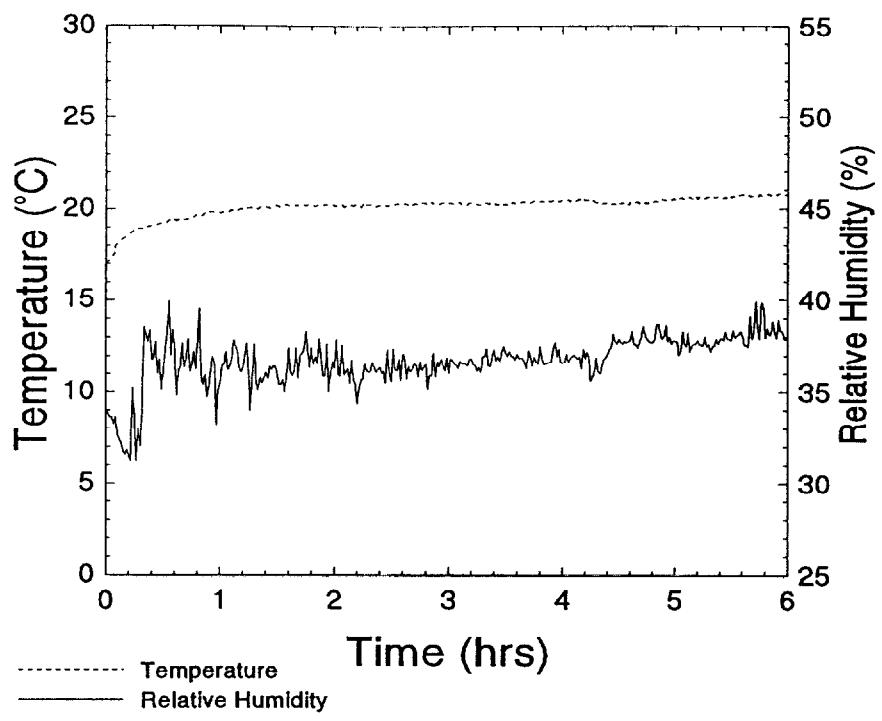


Figure 35 - Foam A, experiment 3, environmental conditions

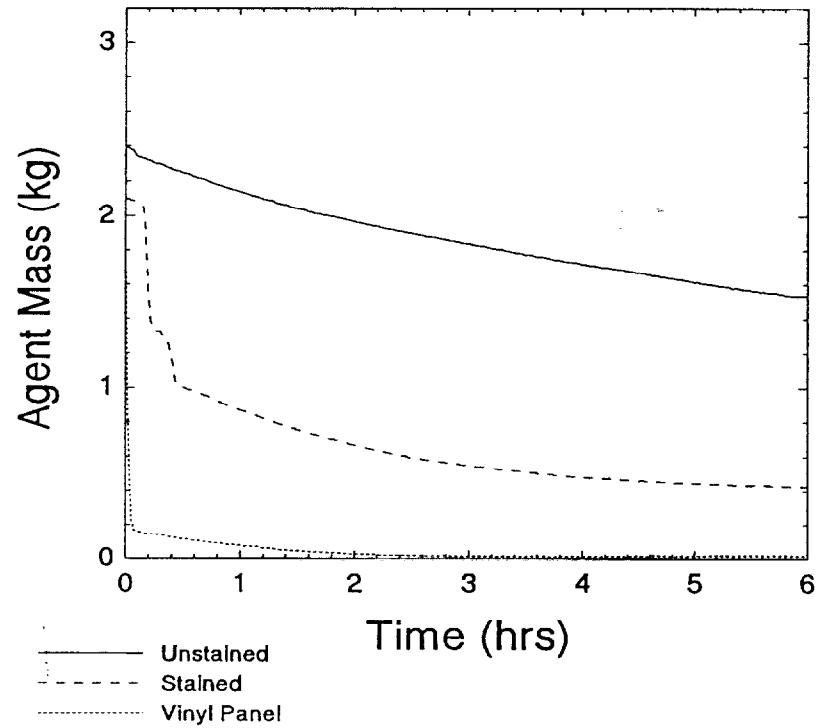


Figure 36 - Foam A, experiment 3, mass retention

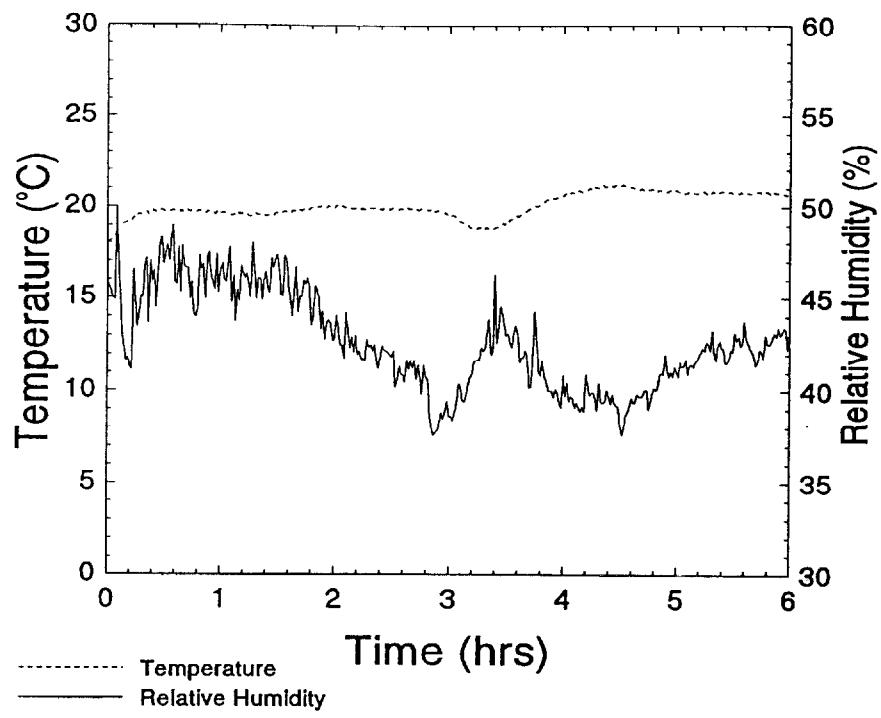


Figure 37 - Foam B, experiment 1, environmental conditions

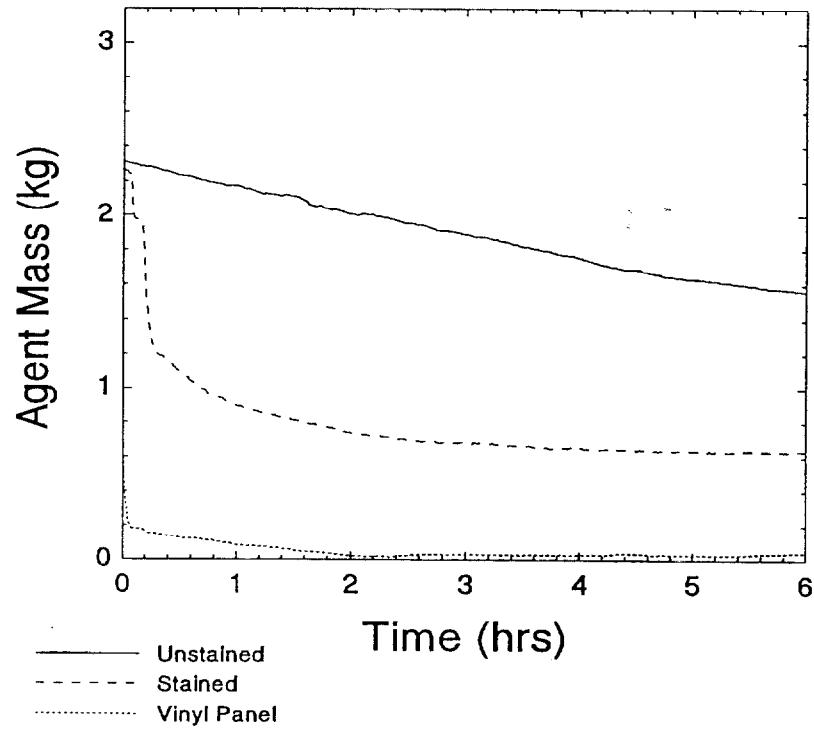


Figure 38 - Foam B, experiment 1, mass retention

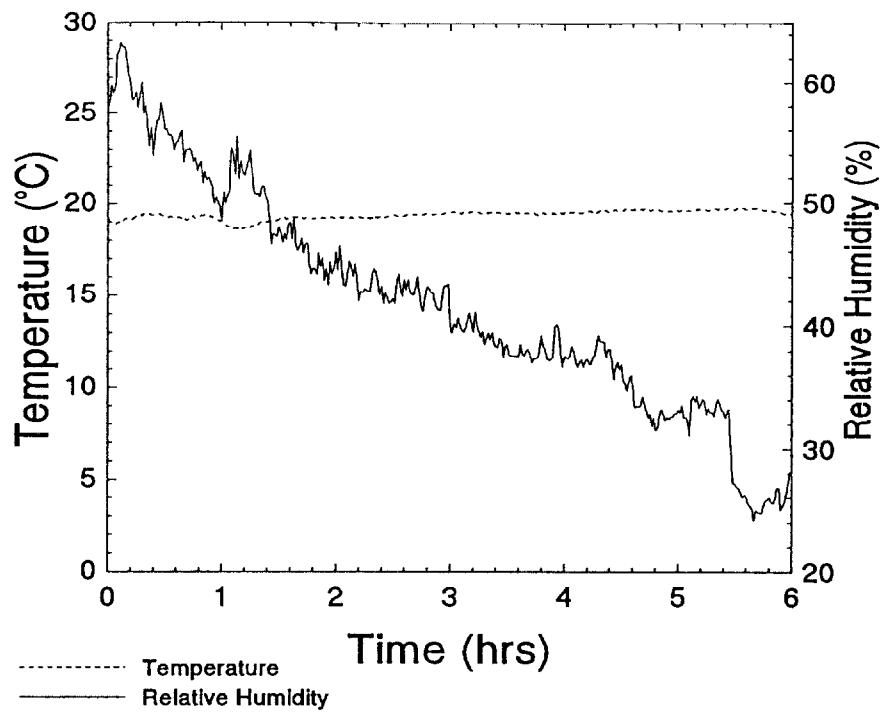


Figure 39 - Foam B, experiment 2, environmental conditions

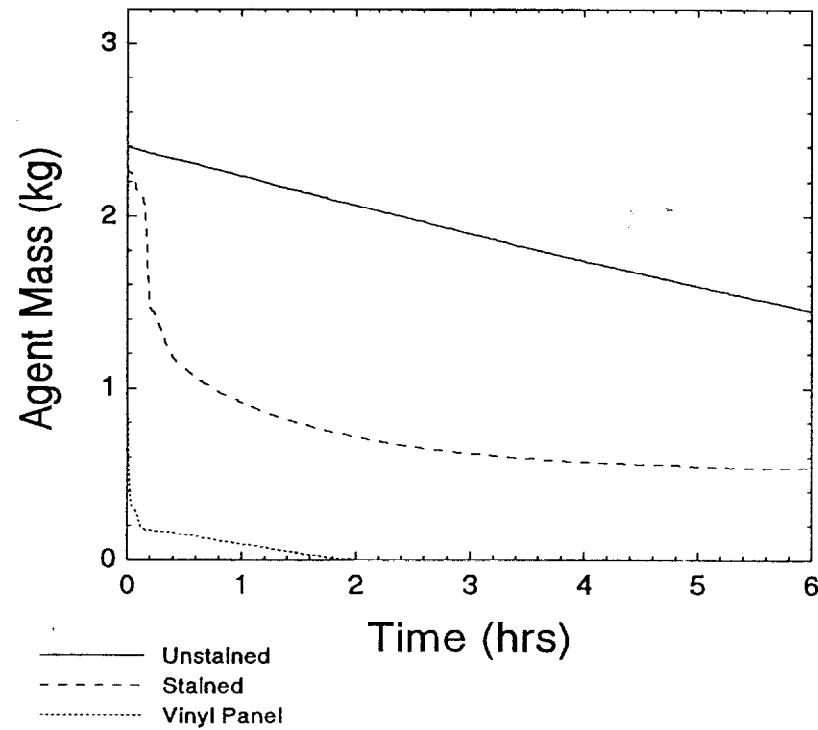


Figure 40 - Foam B, experiment 2, mass retention

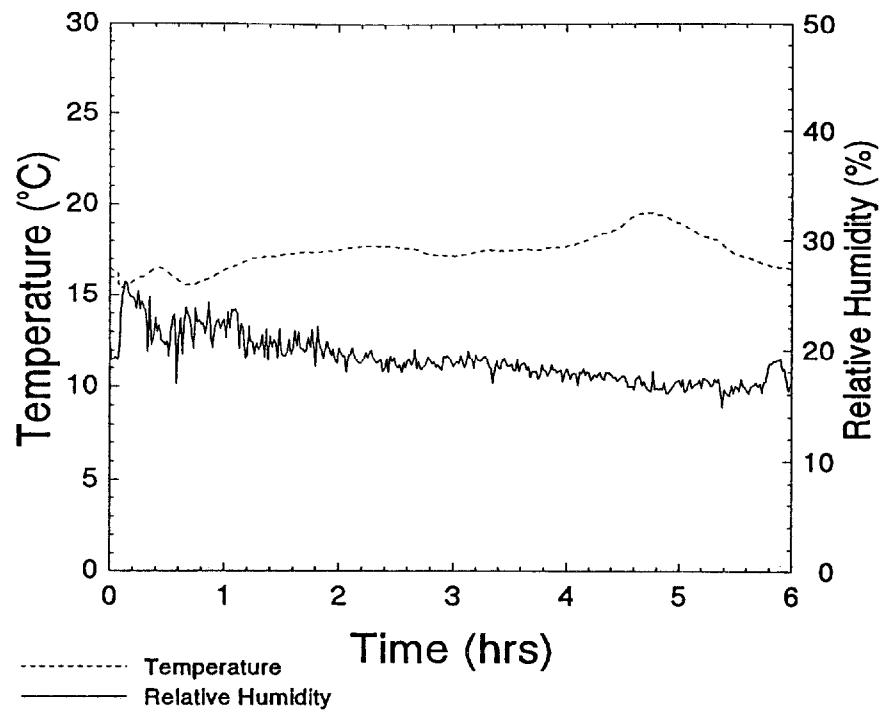


Figure 41 - Foam B, experiment 3, environmental conditions

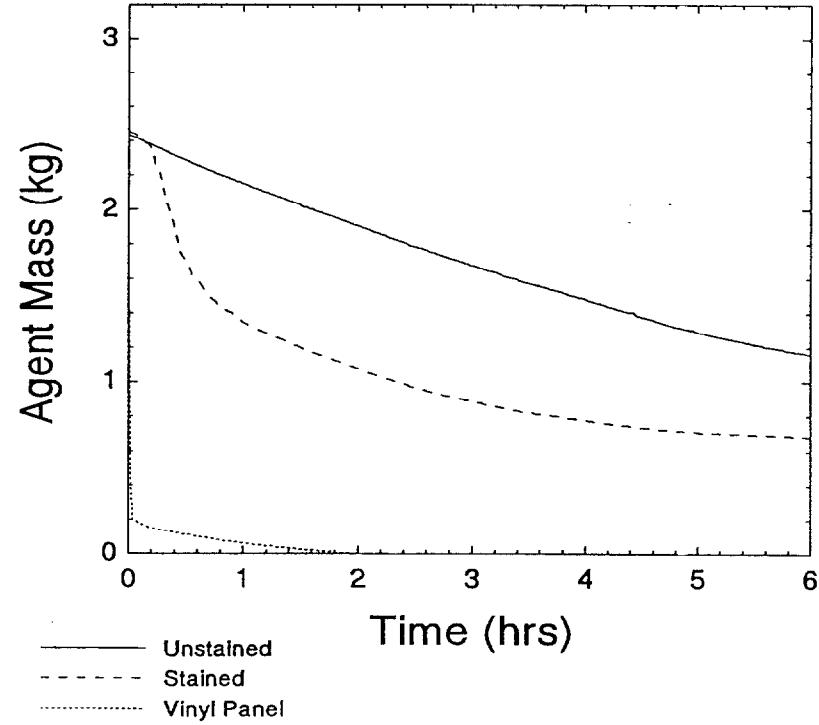


Figure 42 - Foam B, experiment 3, mass retention

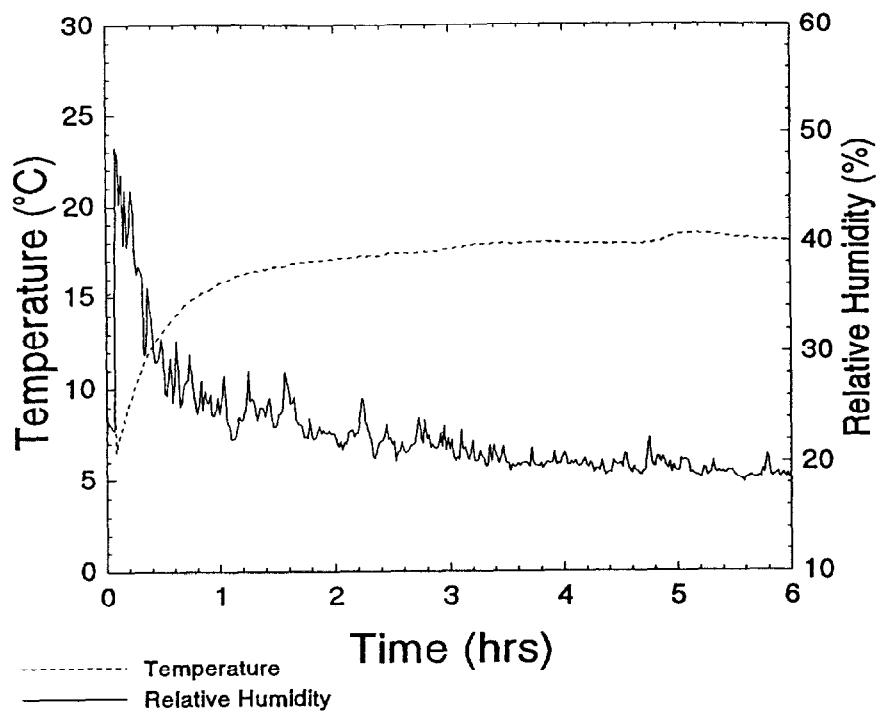


Figure 43 - Foam C, experiment 1, environmental conditions

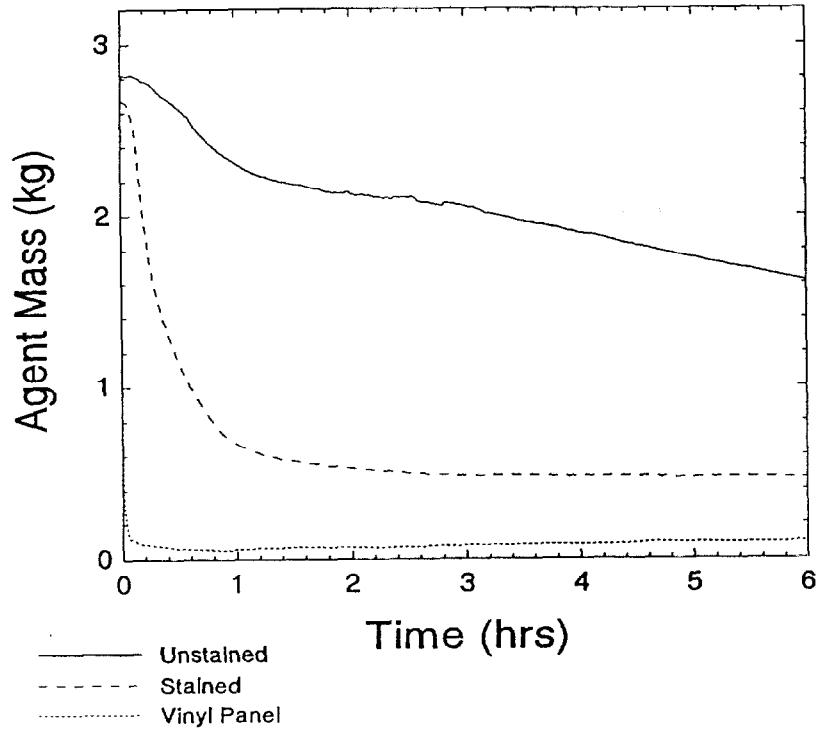


Figure 44 - Foam C, experiment 1, mass retention

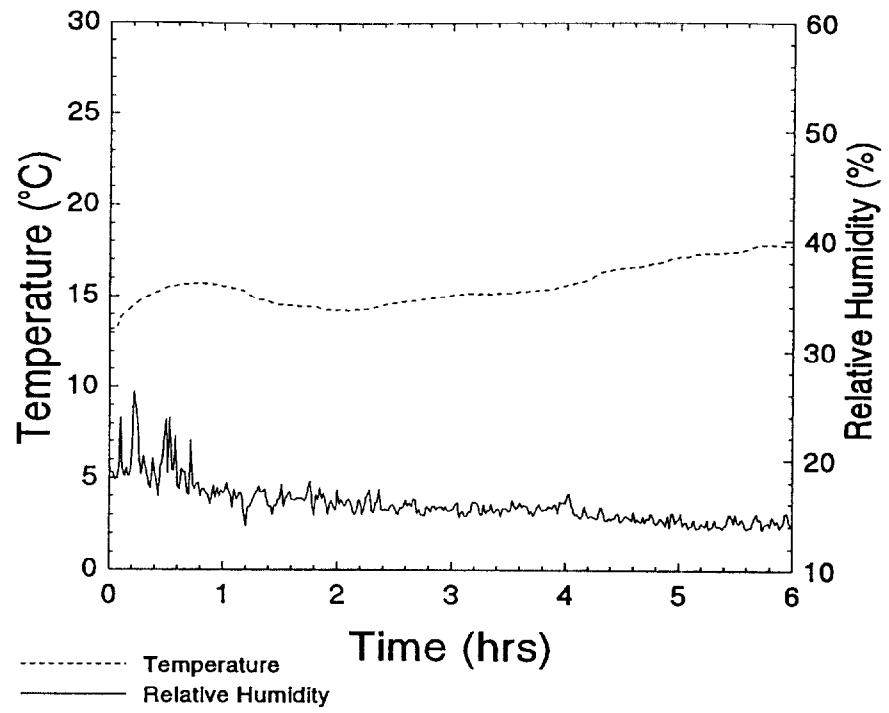


Figure 45 - Foam C, experiment 2, environmental conditions

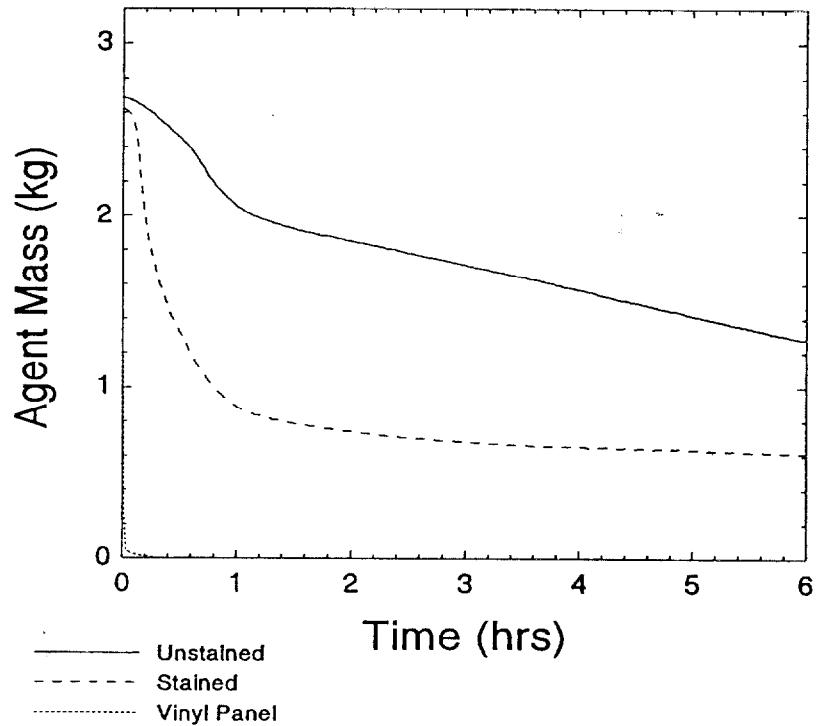


Figure 46 - Foam C, experiment 2, mass retention

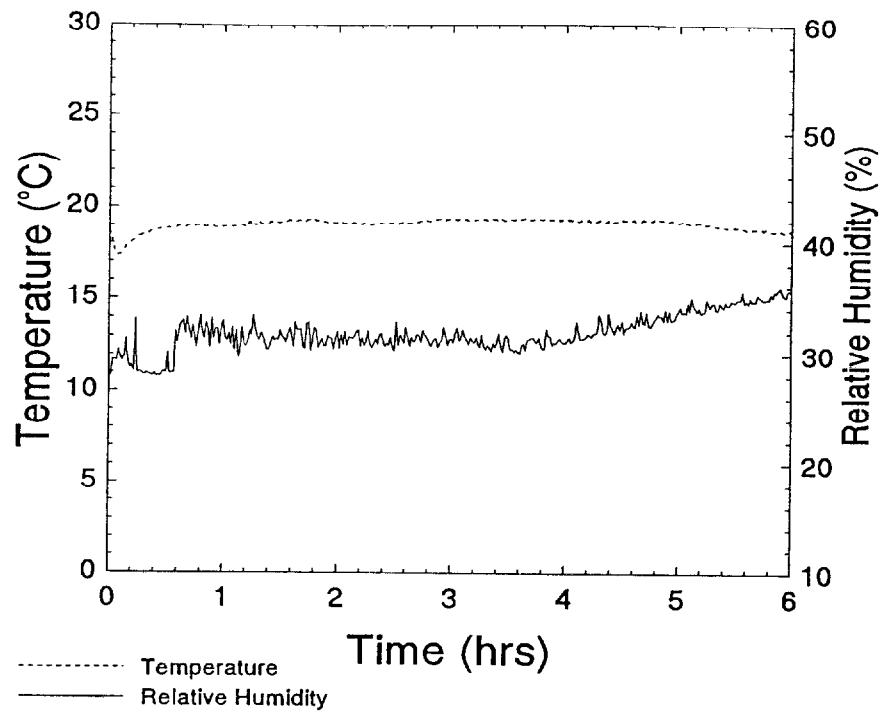


Figure 47 - Foam C, experiment 3, environmental conditions

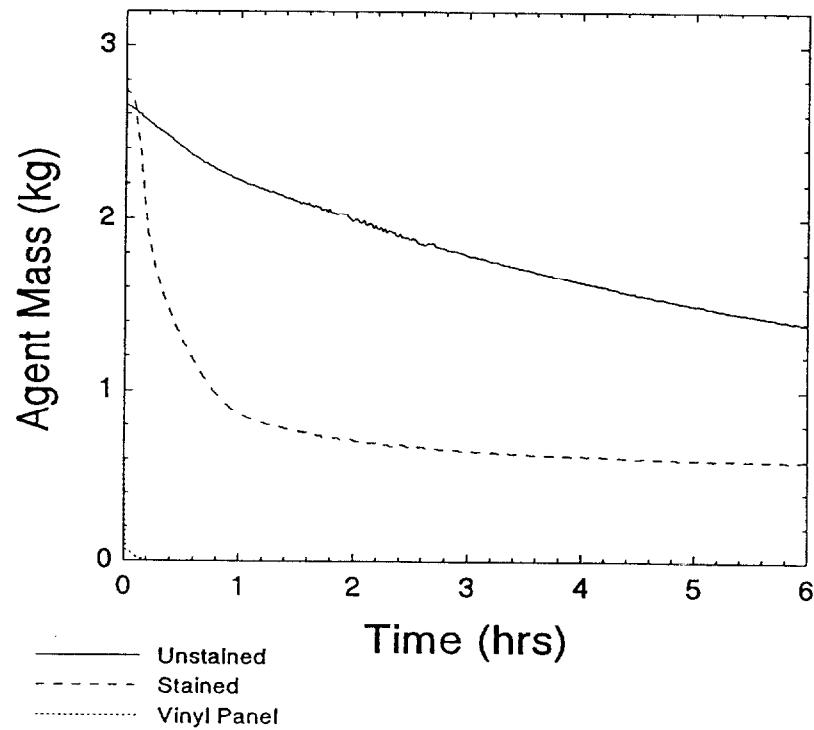


Figure 48 - Foam C, experiment 3, mass retention

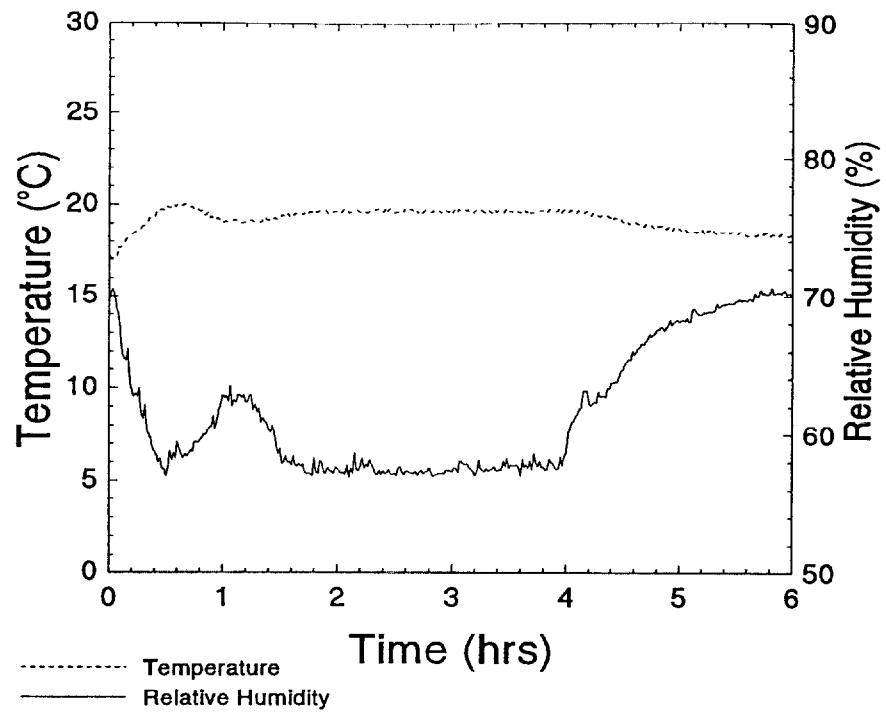


Figure 49 - Foam D, experiment 1, environmental conditions

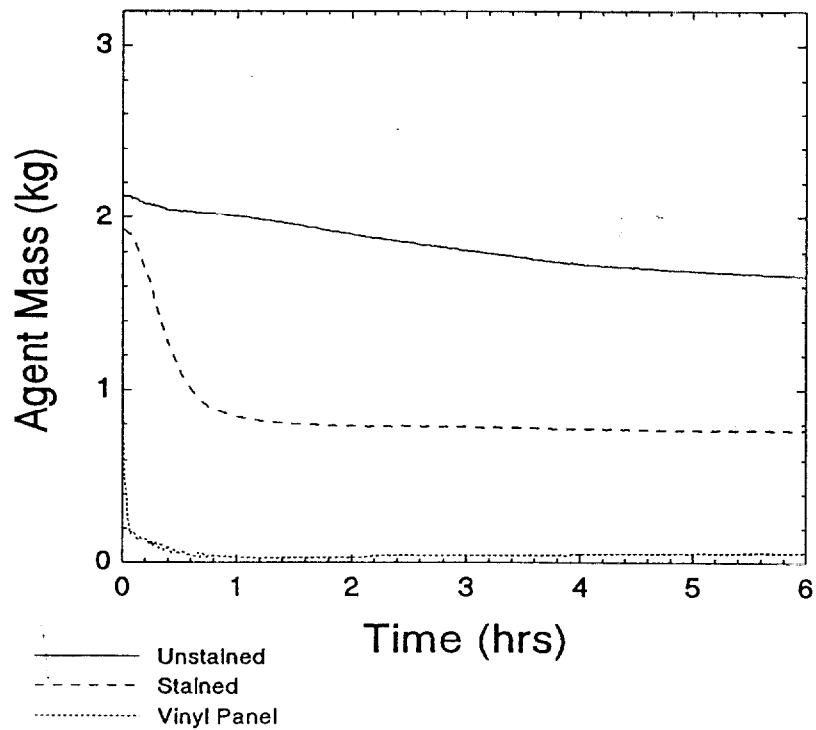


Figure 50 - Foam D, experiment 1, mass retention

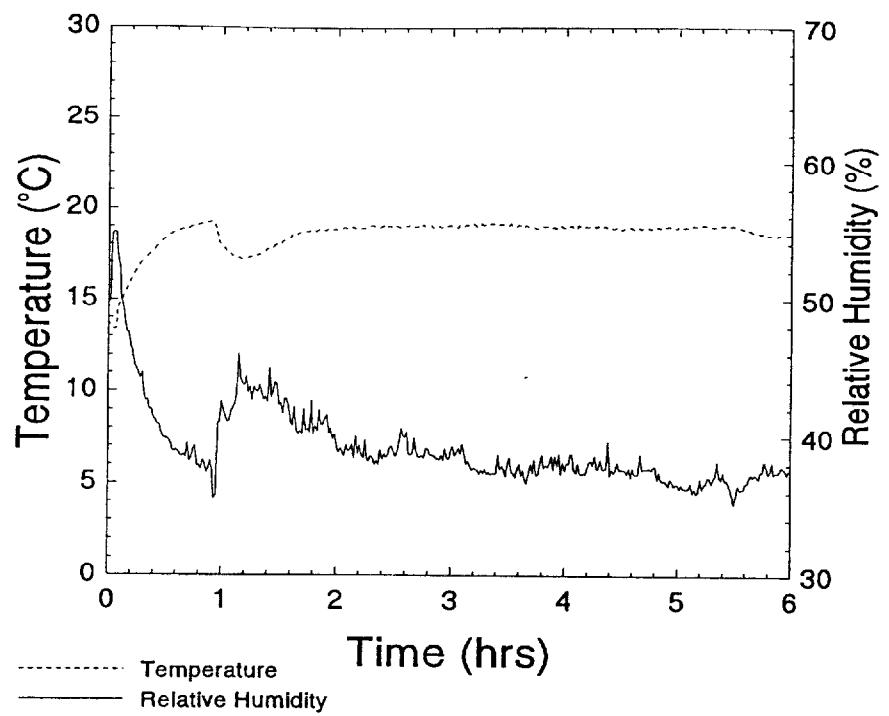


Figure 51 - Foam D, experiment 2, environmental conditions

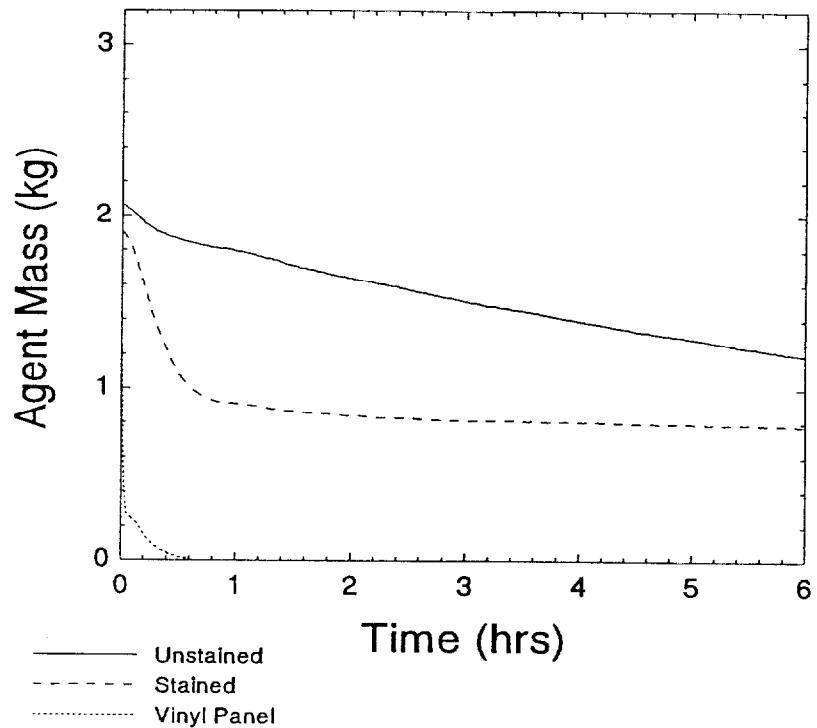


Figure 52 - Foam D, experiment 2, mass retention

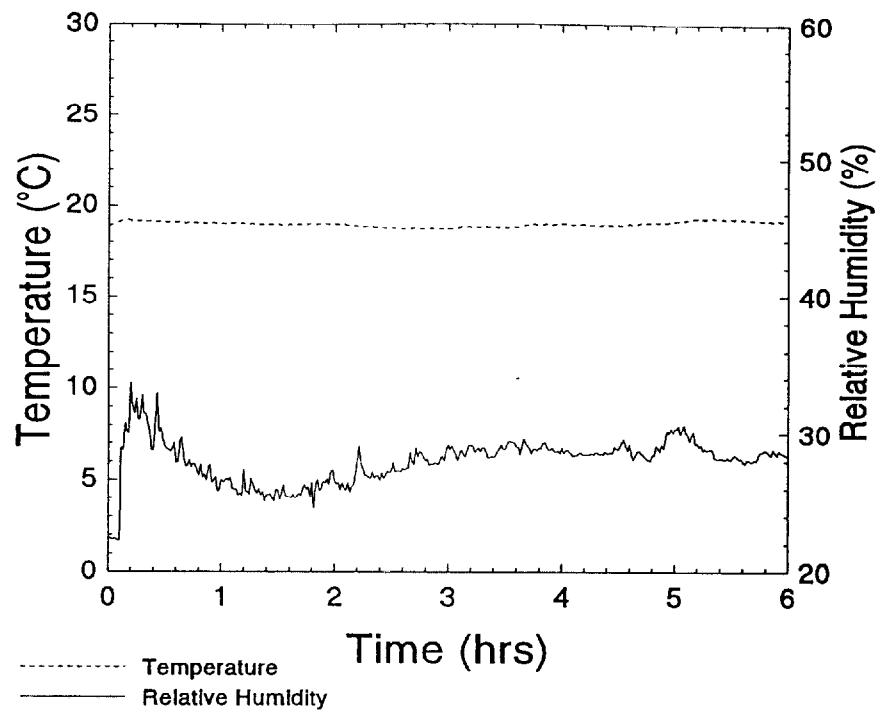


Figure 53 - Foam D, experiment 3, environmental conditions

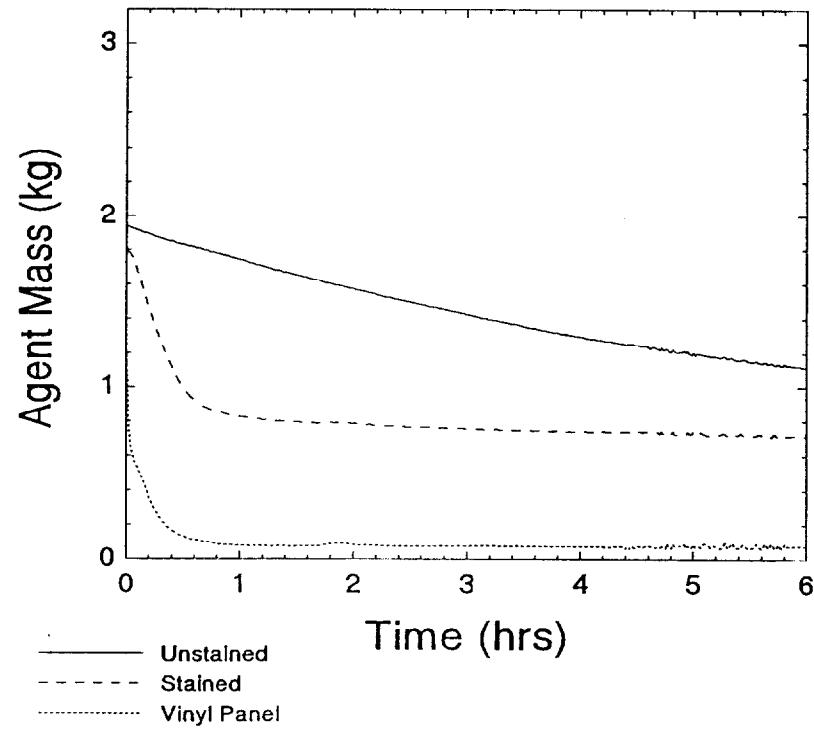


Figure 54 - Foam D, experiment 3, mass retention